

## ACTIVITY

### DISCOVERING

#### The Skin

1. Wet your finger and blow on it. Describe how it feels. Wet a spot on your arm and blow on it. Describe this feeling.

2. Think about when you first get out of a shower or a bathtub. How do you feel when you are wet? Do you feel better after you are dry? Think about the times you perspire. How do you think perspiration helps the body?

3. Now touch a cotton ball that has been dipped in water and another cotton ball that has been dipped in isopropyl (rubbing) alcohol on two different areas of your arm. Compare the different feelings you experience in both areas.

■ Which functions of the skin are apparent in these activities?

If you were to look at the lining inside the small intestine under a microscope, you would see that it is covered by structures resembling tiny and even tinier hills. See Figure 1-4 on page 17. In just 6.5 square centimeters of the small intestine, there are 20,000 tiny hills and 10 billion tinier hills!

Within each hill is a network of tiny blood vessels. As digested food passes through these hill-like structures, it is absorbed by these cells. Then it is passed on to the tiny blood vessels, which carry the digested food to all parts of the body.

**ASSEMBLY CELLS** The body contains millions of cells that are responsible for assembling, or putting together, important chemical substances. The pancreas, a fish-shaped structure located just behind the stomach, contains a variety of these assembly cells. Some of them are specialized to produce enzymes. Enzymes are chemicals that help to break down food into simpler substances. Others are specialized to produce hormones. Hormones are chemical messengers that help to regulate certain activities of the body.

**CELLS FOR MOVEMENT** Every move you make—from the twitch of an eyebrow to the powerful stride of running to the lifting of this textbook—depends on muscle cells. A muscle cell is like no other type of cell in the body because a muscle cell is able to contract, or shorten. In doing so, a muscle cell causes movement. You will read more about the different types of muscle cells in Chapter 2.

## Tissues

Your body is a masterpiece of timing and organization. Its trillions of cells work together to keep you alive. To help you accomplish this task, the cells that make up your body are organized into **tissues**. A tissue is a group of similar cells that perform the same function. **There are four basic types of tissues in the human body: muscle, connective, nerve, and epithelial** (ehp-ih-THEE-lee-uhl). Observing these tissues under a microscope, you might be surprised to see how different they are from one another.

**Figure 1-5** The heart contains muscle tissue, epithelial tissue, connective tissue, and nerve tissue.

